

Abstract

The invention is a method and apparatus for planarizing a wafer. Discrete measurements are taken across the surface of the wafer at a desired spatial density. The measurements may be generated using a flash lamp to reflect a light signal off the surface of the wafer with a spectrometer analyzing the reflected light. A plurality of probes may be used at different locations to shorten the time necessary for taking measurements across the full front surface of the wafer and for allowing a plurality of areas to be sampled substantially simultaneously. A control system receives the measurements and their corresponding locations. The control system is then able to analyze the data looking for areas or bands on the front surface of the wafer that need an increase or decrease in material removal rate. The control system is then able to adjust one or more planarization parameters to improve the process for the current wafer or for future wafers.